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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,427	07/07/2003	Neil Andrew Abercrombie Simpson	MRKS/0091	7722

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EXAMINER

NEUDER, WILLIAM P

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/614,427		ABERCROMBIE SIMPSON ET AL.	
	Examiner		Art Unit	
	William P Neuder		3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-95 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 55,61-64,67-72 and 81-86 is/are allowed.
- 6) ☒ Claim(s) 1-9,11-25,27-38,44-54,56-58,65,66,73-80,87-89 and 91-93 is/are rejected.
- 7) ☒ Claim(s) 10,26,39-43,59,60 and 90 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/24/04, 9/7/04</u> | 6) <input type="checkbox"/> Other: ____. |

HL

DETAILED ACTION

Claim Objections

Claims 45 and 95 are objected to because of the following informalities: In claim 45, line 2, "if the wall" should be --of the wall--. In claim 95, line 1, "tubular subsequently" should be --tubular is subsequently--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 66 and 93-95 are rejected under 35 U.S.C. 102(e) as being anticipated by Richard et al 6263972.

Richard discloses a method of drilling using corrugated tubing as the drill string. See figure 3. As to claim 94, the tubular is corrugated casing. As to claim 95, the tubular is subsequently expanded. As to claim 66, the tubing is reelable.

Claims 1,2,3,6,8,9,11,12,16,17,21,27,31-33,54,56,58,65,66,73-80,87-89 and 91 are rejected under 35 U.S.C. 102(e) as being anticipated by Haugen et al 2004/0159446.

Haugen discloses a method of lining a well using corrugated tubing (see figures 8 and 9). Paragraph 68 states that the casing 710 is preferably corrugated prior to running into the well. This is considered to teach that the casing 710 can be corrugated down hole. The tubular is run down hole and then corrugated. As to claim 2, any corrugated tubing increases the collapse resistance. As to claim 3, the tubing is considered thin-walled since the term thin-walled has no definitive meaning in the art. i.e. thin walled does not mean having a specific dimension or thickness. As to claim 6, the tubing is conventional tubing and is assumed to have a wall thickness of at least 6 mm since conventional tubing has a wall thickness of at least 6 mm. As to claim 8, the corrugated tubing 710 is run into preexisting tubing and then expanded to an internal diameter at least as large as the diameter of the initial tubing. As to claims 9 and 11, the tubing is expanded after being corrugated. Also, check the dependency of claim 11 since this claim pretty much sets forth the same limitation of claim 9. As to claim 12, expansion of the tubing 710 creates a cylindrical wall form of tubing 710 after expansion. As to claim 16, tubing 710 is expanded from the bottom up. As to claim 17, the tubing is cemented into place. As to claim 21, all of tubing 710 is corrugated. As to claim 27, an expander is located within the tubing. As to claim 31, the tubing can be used for patching which is considered a problem formation. As to claim 32, the tubing would be corrugated down hole when the tubing is placed at the position to be patched. As to claim 33, the corrugated tubing is expanded. As to claim 54, the method of Haugen is to run the corrugated tubing down hole. This method inherently would minimize differential sticking. As to claim 56, the tubing 710 is rotated as it is run into

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the ground. As to claim 57, the tubing can be multiple sections joined together. As to claim 58, since the tubing is rotated the tubing will inherently dislodge sediment. As to claim 65, the tubing 710 could be used at any place. The use of the tubing at a lateral wall is intended use and only requires structure that is capable of performing the intended use. Clearly the tubing could be used in a lateral well. As to claim 66, the tubing could be reelable tubing. As to claim 73, the tubular is corrugated at its upper end and is capable of engaging a tubing hanger. As to claim 74, the corrugated tubing 710 engages a second tubular at its corrugations. As to claim 75, tubing 710, after expansion, is hung from the second tubular. As to claim 76, all of tubing 710 is corrugated. As to claim 77, a fluid flow path is provided between the tubing 710 and the tubing 720 prior to expansion of tubing 710. As to claim 78, expansion of tubing 710 closes the flow path. As to claim 79, after placing tubing 710, the tubing is expanded and the corrugations flattened. As to claim 80, tubing 710 is corrugated along its entire length and is hung from tubing 720. As to claim 87, corrugated tubing 710 is expanded in the well. As to claim 88, tubing 710 is substantially the same length as tubing 720. As to claim 89, the corrugations on tubing 710 engage tubing 720. As to claim 91, expander 750 has a sliding sleeve.

Claims 1-3,7,8,17,18,20-25,27-38,44-52 and 65 are rejected under 35 U.S.C. 102(b) as being anticipated by Nazzai et al 6,253,850.

Nazzai discloses a method of lining a well where tubing 14 is run into the well and then corrugated. As to claim 2, corrugation of any tubular increases the collapse resistance of the tubular. As to claim 3, the tubing is considered thin-walled since the

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term thin-walled has no definitive meaning in the art. i.e. thin walled does not mean having a specific dimension or thickness. As to claim 7, the tubular is corrugated during diametric expansion of tubular 14. As to claim 8, the corrugated tubing 14 is run into preexisting tubing and then expanded to an internal diameter at least as large as the diameter of the initial tubing. As to claim 17, the tubing is cemented into place. As to claim 18, the tubing carries an epoxy or sealing means on its outer corrugated surface. As to claim 20, tubing 14 is corrugated only where the bore wall is corrugated. If a section of wall is straight, so will be tubing 14 in that section. As to claim 21, all of tubing 14 is corrugated when all of the bore wall is corrugated. As to claims 22 and 23, the corrugations extend circumferentially and helical. As to claim 24, Nazzai discloses that multiple tubulars 14 may be used. As to claim 25, all of tubulars 14 have a cylindrical wall prior to expansion. As to claim 26, all of tubulars 14 used are expanded. As to claim 27, an expander is located within the tubing. As to claim 31, the tubing can be used for patching which is considered a problem formation. As to claim 32, the tubing would be corrugated down hole when the tubing is placed at the position to be patched. As to claim 33, the corrugated tubing is expanded. As to claim 35, the expander would be moved axially. As to claim 36, the tubing 14 is thin-walled. As to claim 37, placement of the epoxy is considered to anneal the tubing after corrugation since expansion of the tubing actuates the epoxy. As to claim 38, the sealing means or rubber is considered an elongate material. As to claims 44 and 45, epoxy or sealing material is located in the corrugations. As to claim 46, the material is a sealing material. As to claim 47, the tubing containing the sealing material is run into the well. As to

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claims 48 and 51, the sealing material fills the annulus surrounding tubing 14. As to claim 49, the tubing 14 containing the sealing material is expanded. As to claim 50, expansion of the tubing pushes the material out of the corrugations. As to claim 52, an existing tubular 10 defines the bore wall. As to claim 65, the tubing 14 could be used at any place. The use of the tubing at a lateral wall is intended use and only requires structure that is capable of performing the intended use. Clearly the tubing could be used in a lateral well.

Claims 1-8,13-17,20,22-25,27-36 and 65 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 0146551.

Weatherford Lamb discloses a corrugated tubing and method of use. Please see page 1, lines 3-5, figures 10 and 11, page 4, lines 32 through page 5, line 2, page 9, lines 22-26.

Claims 1-7,9,11-20,24,25,27,31-33,36 and 65 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 2350137.

Baker Hughes discloses a corrugated tubing and method of use. See page 3, lines 1 and 2, page 4, lines 9 and 10, page 5, lines 3-6, page 9, lines 10-18 and figures 27-30.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4,5,13-15,20 and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haugen et al.

Haugen has been described above. As to claims 4 and 5, the exact thickness of the tubing wall would have been considered an obvious design choice since the thickness of the wall depends upon the amount of collapse pressure present. As to claims 13-15, the direction the corrugation and expansion take would have been considered an obvious design choice since the direction has no effect on the end product. The same corrugated tubing is produced regardless if the direction is up or

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down. As to claim 20, it would have been considered obvious to corrugate the entire tubing or only a portion of the tubing. As to claim 92, the tubing could be used in any environment. It would have been considered obvious to use the tubing in any known drilling environment of which subsea is one.

Claims 4-6,13-16,19,28-30,53,66 and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nazzai et al.

Nazzai has been described above. As to claims 4- 6, the exact thickness of the tubing wall would have been considered an obvious design choice since the thickness of the wall depends upon the amount of collapse pressure present. As to claims 13-16, the direction the corrugation and expansion take would have been considered an obvious design choice since the direction has no effect on the end product. The same corrugated tubing is produced regardless if the direction is up or down. As to claim 19,while it is considered that the sealing material or rubber would be in the form of a sleeve, it would have been considered obvious to form the sealing material or rubber in the form of a sleeve. As to claims 28-30, it would have been considered obvious to use any know expander. Rotary expanders are known, and use of one known expander for another would not normally be considered patentable. As to claim 3, tubing 14 is capable of being used in an unlined well and it would have been considered obvious to use the tubular in an unlined well. As to claim 66, to form the tubing 14 reelable would have been considered an obvious design choice since many oil field tubulars are of the reelable variety. As to claim 92, the tubing could be used in any environment. It would

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have been considered obvious to use the tubing in any known drilling environment of which subsea is one.

Allowable Subject Matter

Claims 10,26,39-43,59,60 and 90 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 55,61-64,67-72 and 81-86 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P Neuder whose telephone number is 571-272-7032. The examiner can normally be reached on Tuesday through Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William P Neuder

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Primary Examiner
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W.P.N.